

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently amended) A method for transmitting data in a communication system wherein [[said]] the data is transmitted in a communication frame[[s]], the communication frame[[s]] comprising a set of predetermined time slots, the method comprising:

wirelessly receiving [[,]] at a terminal device; one or more scattering instructions from a gateway;

dividing data corresponding to a time slot in the set of time slots into a plurality of intervals in accordance with the one or more scattering instructions, wherein each interval in the plurality of intervals comprises a duration shorter than a duration of the time slot;

scattering at least a portion of the plurality of intervals to one or more disparate time slots in the set of time slots based upon the one or more scattering instructions, wherein the portion of the plurality of intervals are scattered non-contiguously; and

[[,]] the scattering instructions providing information for partitioning said data into intervals, each interval shorter in duration than each of said predetermined time slots, and placing at least two of said intervals into at least one of said communication frames, the at least two intervals placed within the at least one communication frame in a non-contiguous manner; and

transmitting the data in accordance with locations of the plurality of intervals within the communication frame[[s]].

2. (Currently amended) The method of [[C]] claim 1, further comprising receiving configuration information, wherein the one or more scattering instructions are included with the configuration information.

3. (Currently amended) The method of [[C]] claim 1, wherein the one or more scattering instructions comprise an index into a memory of stored time-scattering control information.

4. (Currently amended) The method of [[C]] claim 3, wherein the memory is disposed within [[the]] a terminal device.
5. (Currently amended) The method of [[C]] claim 1, wherein the one or more scattering instructions comprise a table of information tabular indication of how to that indicates a temporal[[ly]] scattering of the data.
6. (Currently amended) The method of [[C]] claim 5, wherein the table of information tabular indication specifies, by a time interval identifier, a starting location for [[the]] scattered data.
7. (Currently amended) The method of [[C]] claim 1, wherein the one or more scattering instructions comprise an algorithm for temporally scattering the data.
8. (Currently amended) A terminal device transmitting data in a communication system, comprising: wherein said data is transmitted in communication frames, the communication frames comprising predetermined time slots, the terminal device comprising:
a receiver configured to receive one or more scattering instructions from a gateway device;
a processor configured to: [[;]]
divide data associated with a time slot of a communication frame into a plurality of intervals in accordance with the one or more scattering instructions, wherein each interval comprises a shorter duration than the time slot;
distribute the plurality of intervals among one or more disparate time slots in the communication frame based at least in part on the one or more scattering instructions, wherein the plurality of intervals are distributed non-contiguously; and
a transmitter configured to transmit the plurality of intervals in accordance with locations of the plurality of intervals within the communication frames,
a memory of stored time scattering control information coupled to the processor; and
a machine accessible medium, coupled to the processor, having instructions encoded therein, the instructions, when executed by the processor, cause the terminal device to:
wirelessly receive one or more scattering instructions, the scattering instructions

providing information for partitioning said data into intervals, each interval shorter in duration than each of said predetermined time slots, and placing at least two of said intervals into at least one of said communication frames, the at least two intervals placed within the at least one communication frame in a non contiguous manner; and
transmitting the communication frames.

9. (Currently amended) The terminal device of [[C]] claim 8, wherein the instructions, when executed by the processor further cause the terminal device the receiver is further configured to receive configuration information, wherein the one or more scattering instructions are included with the configuration information.

10. (Currently amended) The terminal device of [[C]] claim 8, wherein the one or more scattering instructions comprise an index into [[the]] a memory.

11. (Currently amended) The terminal device of [[C]] claim 10, wherein the memory stores time scattering control information, is part of the terminal device.

12. (Canceled)

13. (Currently amended) The terminal device of [[C]] claim 8, wherein the one or more scattering instructions comprise a table of information tabular indication of how to that indicates a temporal scattering of the intervals data.

14. (Currently amended) The terminal device of [[C]] claim 8, wherein the one or more scattering instructions comprise an algorithmic indication of how to scatter the intervals.

15. (Currently amended) A method, comprising: for transmitting data in a communication system wherein said data is transmitted in communication frames, the communication frames comprising predetermined time slots, the method comprising:

wirelessly receiving scattering instructions;
receiving a request from a terminal device for access to a communications channel;
generating a schedule of transmission for the terminal device based on the scattering

instructions, wherein the schedule of transmission specifies for partitioning said a division of data into a plurality of time intervals, each time interval shorter in duration than a time slot of a communication frame, the schedule of transmission further specifies a location of each time interval from the plurality of time intervals within the communication frame, wherein the plurality of time intervals are located within the each of said predetermined time slots, and placing at least two of said intervals into at least one of said communication frames, the at least two intervals placed within the at least one communication frame in a non-contiguous manner; generating one or more scattering instructions in accordance with the schedule of transmission; and

transmitting the schedule of transmission one or more scattering instructions to the terminal device.

16. (Currently amended) The method of [[C]] claim 15, wherein receiving the request comprises receiving an indication of the amount of data queued at the terminal device for communication.

17. (Currently amended) The method of [[C]] claim 15, wherein the schedule of transmission comprises a list of the plurality of time intervals.

18. (Currently amended) The method of [[C]] claim 17, wherein each time interval comprises a starting location in the one of said communication frame[[s]] and a transmission duration.

19. (Currently amended) The method of [[C]] claim 15, further comprising transmitting modulation control information for [[the]] time scattered data.

20. (Currently amended) The method of [[C]] claim 18, wherein the communication frame[[s]] [[are]] is divided into a number of [[said]] time [[slots]] intervals in accordance with a dividing rate.

21. (Currently amended) The method of [[C]] claim 18, wherein the starting location comprises a time slot and the transmission duration comprises a number of time intervals.

22. (Currently amended) The method of [[C]] claim 18, wherein the starting location comprises a first time interval identifier and the transmission duration comprises a second time interval identifier.
23. (Currently amended) The method of [[C]] claim 15, further comprising:
receiving data from the terminal device, transmitted in a scattered manner per the one or more scattering instructions; [[,]] and
reordering the data in accordance with the scattering schedule of transmission to obtain the data in [[its]] an originally intended order.

24-25. (Canceled)

26. (Currently amended) An [[A]] apparatus, for transmitting data in a communication system wherein said data is transmitted in a communication frames, the communication frames comprising predetermined time slots comprising:
- means for receiving a request from a terminal device for access to a communications channel and for wirelessly receiving scattering instructions;
- means for generating a schedule of transmission for the terminal device based on the scattering instructions, wherein the schedule of transmission specifies for partitioning said a partition of data into a plurality of time intervals, each time interval shorter in duration than a time slot of a communication frame, the schedule of transmission further specifies a location of each time interval from the plurality of time intervals within the communication frame, wherein the plurality of time intervals are located within the each of said predetermined time slots, and placing at least two of said intervals into at least one of said communication frames, the at least two intervals placed within the at least one communication frame in a non-contiguous manner;
- means for generating one or more scattering instructions in accordance with the schedule of transmission; and
- means for transmitting the schedule of transmission one or more scattering instructions to the terminal device.

27. (Currently amended) The apparatus of [[C]] claim 26, wherein the means for receiving the request comprises means for receiving an indication of an amount of data queued at the terminal device for communication.
28. (Currently amended) The apparatus of [[C]] claim 26, wherein the means for generating the schedule of transmission comprises means for generating a list of the plurality of time intervals.
29. (Currently amended) The apparatus of [[C]] claim 28, wherein each time interval comprises a starting location in [[a]] the communication frame and a transmission duration.
30. (Currently amended) The apparatus of [[C]] claim 26, further comprising means for transmitting modulation control information for the time scattered data.
31. (Currently amended) The apparatus of [[C]] claim 26, wherein the communication frame[[s]] [[are]] is divided into a number of [[said]] time slots intervals in accordance with a dividing rate.
32. (Currently amended) The apparatus of [[C]] claim 26, further comprising:
means for receiving data from the terminal device, the data transmitted in a scattered manner in accordance with the one or more scattering instructions[[.]]; and
means for reordering the data in accordance with the scattering schedule of transmission to obtain the data in [[its]] an originally intended order.
- 33-34. (Canceled)
35. (Currently amended) A terminal device for transmitting data in a communication system wherein said the data is transmitted in a communication frame[[s]], the communication frame[[s]] comprising predetermined a set of time slots, the terminal device comprising:
means for wirelessly receiving one or more scattering instructions from a gateway;
means for partitioning data corresponding to a time slot in the set of time slots into a plurality of intervals in accordance with the one or more scattering instructions, wherein each

interval in the plurality of intervals comprises a duration shorter than a duration of the time slot;
means for scattering at least a portion of the plurality of intervals to one or more disparate
time slots in the set of time slots based upon the one or more scattering instructions, wherein the
portion of the plurality of intervals are scattered non-contiguously; and
~~, the scattering instructions providing information for partitioning said data into intervals, each~~
~~interval shorter in duration than each of said predetermined time slots, and placing at least two of~~
~~said intervals into at least one of said communication frames, the at least two intervals placed~~
~~within the at least one communication frame in a non-contiguous manner; and~~
means for transmitting the data in accordance with locations of the plurality of intervals
within the communication frame[[s]].

36. (Currently amended) The terminal device of [[C]] claim 35, further comprising means for receiving configuration information, wherein the one or more scattering instructions are included with the configuration information.

37. (Currently amended) The terminal device of [[C]] claim 35, further comprising a memory for storing time-scattering control information, wherein the one or more scattering instructions comprise an index into the memory.

38-42. (Canceled)

43. (New) A computer program product, comprising:
a computer-readable medium, comprising:
 code for causing at least one computer to receive one or more scattering instructions from a gateway device;
 code for causing the at least one computer to divide data associated with a time slot of a communication frame into a plurality of intervals in accordance with the one or more scattering instructions, wherein each interval comprises a shorter duration than the time slot;
 code for causing the at least one computer to distribute the plurality of intervals among one or more disparate time slots in the communication frame based at least in part on the one or more scattering instructions, wherein the plurality of intervals are

distributed non-contiguously; and

code for causing the at least one computer to transmit the plurality of intervals in accordance with locations of the plurality of intervals within the communication frames.

44. (New) The computer program product of claim 43, the computer-readable medium further comprising code for causing the at least one computer to receive configuration information, wherein the configuration information includes the one or more scattering instructions.

45. (New) The computer program product of claim 43, wherein the one or more scattering instructions include an index to a memory that stores time scattering control information.

46. (New) The computer program product of claim 43, wherein the one or more scattering instructions include a table of information that indicates a temporal scattering of the data.

47. (New) The computer program product of claim 43, wherein the one or more scattering specify an algorithm for temporally scattering the data.